

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A program creating apparatus for creating a research program which performs a research on the basis of a predetermined research content including a plurality of research items at a predetermined point of research by using a mobile terminal device carried with a researcher,

 said mobile terminal device including a display unit for displaying a work screen in which a plurality of input interfaces are formed to input an answer to said plurality of research items of said predetermined research content when executing said research program, a position information acquiring unit for acquiring a position information of said device, and a photographing unit for photographing a designated object, comprising:

 a screen display unit which displays a screen to create said research program;

 an input screen information producing unit which produces information to form an input screen including a component setting region to accept information as a parameter required to form a component for forming a plurality of research item designating regions to display information representing said plurality of research items of said predetermined research content, and a research result input region in which said plurality of input interfaces are formed to input an answer to said plurality of research items, or a component for designating that said position information acquiring unit or said ~~photograph~~ photographing unit of said mobile terminal device is used, said information being input by a user, a component adding operation button group to accept an instruction to add said component of a type selected from a plurality of types of said component by allowing said user to select a type suitable for said research item added to said work screen, said component adding operation button group being used in the case of adding said research item to said work screen, and a producing button to instruct that a source code is produced by using information required to form said components depending on said type which is input by said user operation, said plurality of research item designating regions and said research result input region being displayed on said work screen displayed on said display unit of said mobile terminal device when said mobile terminal device executes said research program, and which produces information to form said input screen in which each of said component setting region is formed to accept information as said parameter required to form said component

depending on said selected type, said information being input by said user, every time said component adding operation button group is operated;

a display process unit which displays said input screen in which said plurality of component setting regions are formed on said screen display unit to input said plurality of parameters for forming said plurality of components suitable for said plurality of research items on said work screen on the basis of said information produced by said input screen information producing unit;

a parameter managing unit which manages information which is input by said user operation through said input screen displayed by said display process unit as a plurality of parameters to form said work screen, and which outputs said plurality of parameters required to form said plurality of components and input in said plurality of component setting regions corresponding to said plurality of research items formed in said input screen in association with respective type information which specifies said corresponding type of said plurality of said components when said producing button operation is accepted;

an accepting unit which accepts said plurality of parameters which are output from said parameter managing unit, the parameter representing a question to be displayed on a display of a predetermined terminal device when the first program is executed; a model storing unit which holds a program code for forming said respective components as a plural types of models using said parameter as an argument in association with said type information which specifies said type of said component;

a producing unit which produces a source code of said research program by selecting a plurality of models from said model storing unit for forming respective components corresponding to said type information of said plurality of components to combine said models and setting said parameter in said argument of said model on the basis of respective type information of said plurality of components corresponding to said plurality of research items included in said plurality of parameters accepted by said accepting unit, and upon completion of production of the said source code, which outputs the effect as a source code completion notification;

a compiling unit which compiles said source code of said research program produced by said producing unit to create said research program which can be executed by said mobile terminal device; and

an instructing unit which instructs said compiling unit to compile said source code in response to said source code completion notification which is output from said producing unit.

2. (Previously Presented) The program creating apparatus as set forth in claim 1, further comprising

a checking unit which checks whether or not the size of said research program produced by said compiling unit is smaller than a predetermined size to make it possible to provide said research program to said mobile terminal device when the size of said research program is smaller than a predetermined size.

3. (Previously Presented) The program creating apparatus as set forth in claim 2, further comprising

a notifying unit which notifies said display process unit to display a message that urges reduction of the number of said parameters on said screen display unit in accordance with an instruction from said checking unit when said checking unit determines that the size of said research program is larger than said predetermined size.

4. (Previously Presented) The program creating apparatus as set forth in claim 2, wherein said predetermined size is set for each mobile terminal device which uses said research program,

said program creating system further comprising

a condition storing unit which holds said predetermined size in association with information which specifies said mobile terminal device.

5. (Previously Presented) The program creating apparatus as set forth in claim 2, further comprising:

a storing unit which stores a research program checked by said checking unit; and

a providing unit which provides and distributes said research program stored in said storing unit to said mobile terminal device through a network,

wherein said checking unit stores, when the size of said research program created by said compiling unit is smaller than the predetermined size, the program in said storing unit.

6. (Previously Presented) The program creating apparatus as set forth in claim 2, wherein said input screen information producing unit produces an information to form said input screen including a research item deletion component to accepts an operation to delete said component setting region of said research item in order to delete said corresponding research item,

said program creating system further comprises

a limiting unit which holds a table in which the types of parameters are associated with program sizes, specifies a program size for each parameter included in each type of parameter accepted by said accepting unit with reference to said table, and estimates said size of said research program by adding said program sizes,

said limiting unit further determines that the number of said research items must be reduced when the size of said specified research program is larger than said predetermined size, and determines that the number of said research items must not be reduced when the size of said specified research program is not larger than said predetermined size, and allow said producing unit not to output said parameter accepted by said accepting unit

such that the data size of said program becomes smaller than said predetermined size when the determination is made that the number of said research items must be reduced, said limiting unit again allows said parameter managing unit to manage information input to said input screen as said parameters, allows said accepting unit to accept said parameters from said parameter managing unit, and repeats said estimation and said determination,

said limiting unit further allows said producing unit to output said parameters accepted by said accepting unit when said determination is made that said research items must not be reduced.

7. (Previously Presented) The program creating apparatus as set forth in claim 6,

wherein said parameter managing unit groups said parameters of said component for each of said research items into parameter groups each of which is a group including said parameters corresponding one research item to form one page of said work screen, hold said parameter group while being grouped for each of said research items, and outputs said parameter groups grouped for each of said research items to said accepting unit,

said accepting unit accepts said parameter group grouped for each of said research items, and

said limiting unit determines whether or not the number of said research items must be reduced on the basis of the number of said parameter groups accepted by said accepting unit.

8.-9. (Canceled).

10. (Previously Presented) The program creating apparatus as set forth in claim 6, wherein said limiting unit compares the number of parameters accepted by said accepting unit with a predetermined number to determine whether or not the number of said research items must be reduced.

11. (Previously Presented) The program creating apparatus as set forth in claim 10, wherein when the number of parameters accepted by said accepting unit is larger than said predetermined number, said limiting unit determines that the number of said research items must be reduced.

12. (Previously Presented) The program creating apparatus as set forth in claim 6, further comprising

a notifying unit which notifies said display process unit to display a message that urges reduction of the number of said parameters on said screen display unit,

wherein when the number of said research items must be reduced, said limiting unit allows said producing unit not to output said parameters accepted by said accepting unit, and again allows said parameter managing unit to manage information input to said input screen as said parameters, said limiting unit further allows said accepting unit to accept said parameters from said parameter managing unit, and repeats said estimation and said determination, and

said limiting unit instructs said notifying unit to perform said notification,

when said research items must not be reduced, said limiting unit allows said producing unit to output said plurality of parameters accepted by said accepting unit.

13.-16. (Canceled).

17. (Currently amended) The program creating apparatus as set forth in ~~claim 16~~claim 1, wherein said research program causes said mobile terminal device to realize a function of an input interface to input research data for a predetermined research content and transmits the research result of a predetermined research content inputted through said input interface to a collecting device through a network, and
the work screen is formed to accept a plurality of research items as said research content and options for an answer to the research items.

18.-22. (Canceled).

23. (Currently amended) A non-transitory computer-readable medium, storing a program creating program for creating a research program which performs a research on the basis of a predetermined research content including a plurality of research items at a predetermined point of research by using a mobile terminal device carried with a researcher,
said mobile terminal device including a display unit for displaying a work screen in which a plurality of input interfaces are formed to input an answer to said plurality of research items of said predetermined research content when executing said research program, a position information acquiring unit for acquiring a position information of said device, and a photographing unit for photographing a designated object,
said program creating program being executed by a processor of a computer comprising:
a screen display unit which displays a screen to create said research program; and
a model storing unit which holds a program code for forming respective components as a plural types of models using said parameter as an argument in association with type information which specifies said type of said component, said components including a component for forming a plurality of research item designating regions to display information representing said plurality of research items of said predetermined research content, and a research result input region in which said plurality of input interfaces are formed to input an answer to said plurality of research items, or a component for designating that said position information acquiring unit or said photograph-photographing unit of said mobile terminal device is used, said information being input by a user,

when said program creating program being executed by said processor, said program creating program causes a computer to realize:

an input screen information producing unit which produces information to form an input screen including a component setting region to accept information as a parameter required to form said respective components, a component adding operation button group to accept an instruction to add said component of a type selected from a plurality of types of said component by allowing said user to select a type suitable for said research item added to said work screen, said component adding operation button group being used in the case of adding said research item to said work screen, and a producing button to instruct that a source code is produced by using information required to form said components depending on said type which is input by said user operation, said plurality of research item designating regions and said research result input region being displayed on said work screen displayed on said display unit of said mobile terminal device when said mobile terminal device executes said research program, and which produces information to form said input screen in which each of said component setting region is formed to accept information as said parameter required to form said component depending on said selected type, said information being input by said user, every time said component adding operation button group is operated;

a display process unit which displays said input screen in which said plurality of component setting regions are formed on said screen display unit to input said plurality of parameters for forming said plurality of components suitable for said plurality of research items on said work screen on the basis of said information produced by said input screen information producing unit;

a parameter managing unit which manages information which is input by said user operation through said input screen displayed by said display process unit as a plurality of parameters to form said work screen, and which outputs said plurality of parameters required to form said plurality of components and input in said plurality of component setting regions corresponding to said plurality of research items formed in said input screen in association with respective type information which specifies said corresponding type of said plurality of said components when said producing button operation is accepted;

an accepting unit which accepts said plurality of parameters which are output from said parameter managing unit, the parameter representing a question to be displayed on a display of a predetermined terminal device when the first program is executed;

a producing unit which produces a source code of said research program by selecting a plurality of models from said model storing unit for forming respective components corresponding to said type information of said plurality of components to combine said models and setting said parameter in said argument of said model on the basis of respective type information of said plurality of components corresponding to said plurality of research items included in said plurality of parameters accepted by said accepting unit, and upon completion of production of the said source code, which outputs the effect as a source code completion notification;

a compiling unit which compiles said source code of said research program produced by said producing unit to create said research program which can be executed by said mobile terminal device; and

an instructing unit which instructs said compiling unit to compile said source code in response to said source code completion notification which is output from said producing unit.

24. (Currently amended) The non-transitory computer readable medium as set forth in claim 23, further causing a computer to realize

a checking unit which checks that the size of said research program produced by said compiling unit is smaller than a predetermined size to make it possible to provide said research program when the size of said research program is smaller than a predetermined size.

25. (Currently amended) The non-transitory computer readable medium as set forth in claim 24, further causing a computer to realize

a notifying unit which notifies said display process unit to display a message that urges reduction of the number of said parameters on said screen display unit in accordance with an instruction from said checking unit when said checking unit determines that the size of said research program is larger than a predetermined size.

26. (Currently amended) The non-transitory computer readable medium as set forth in claim 24,

wherein said computer further comprises a condition storing unit which holds said predetermined size in association with information which specifies said mobile terminal device, and

said checking unit checks the size of said research program on the basis of said predetermined size held in said condition storing unit.

27. (Currently amended) A program creating module-unit for creating a research program which performs a research on the basis of a predetermined research content including a plurality of research items at a predetermined point of research by using a mobile terminal device carried with a researcher,

said mobile terminal device including a display unit for displaying a work screen in which a plurality of input interfaces are formed to input an answer to said plurality of research items of said predetermined research content when executing said research program, a position information acquiring unit for acquiring a position information of said device, and a photographing unit for photographing a designated object,

said program creating module-unit comprising:

a screen display unit which displays a screen to create said research program; and

a model storing unit which holds a program code for forming respective components as a plural types of models using said parameter as an argument in association with type information which specifies said type of said component, said components including a component for forming a plurality of research item designating regions to display information representing said plurality of research items of said predetermined research content, and a research result input region in which said plurality of input interfaces are formed to input an answer to said plurality of research items, or a component for designating that said position information acquiring unit or said photograph photographing unit of said mobile terminal device is used, said information being input by a user,

said program creating module-unit causing a computer to realize:

an input screen information producing unit which produces information to form an input screen including a component setting region to accept information as a parameter required to

form said respective components, a component adding operation button group to accept an instruction to add said component of a type selected from a plurality of types of said component by allowing said user to select a type suitable for said research item added to said work screen, said component adding operation button group being used in the case of adding said research item to said work screen, and a producing button to instruct that a source code is produced by using information required to form said components depending on said type which is input by said user operation, said plurality of research item designating regions and said research result input region being displayed on said work screen displayed on said display unit of said mobile terminal device when said mobile terminal device executes said research program, and which produces information to form said input screen in which each of said component setting region is formed to accept information as said parameter required to form said component depending on said selected type, said information being input by said user, every time said component adding operation button group is operated;

a display process unit which displays said input screen in which said plurality of component setting regions are formed on said screen display unit to input said plurality of parameters for forming said plurality of components suitable for said plurality of research items on said work screen on the basis of said information produced by said input screen information producing unit;

a parameter managing unit which manages information which is input by said user operation through said input screen displayed by said display process unit as a plurality of parameters to form said work screen, and which outputs said plurality of parameters required to form said plurality of components and input in said plurality of component setting regions corresponding to said plurality of research items formed in said input screen in association with respective type information which specifies said corresponding type of said plurality of said components when said producing button operation is accepted;

an accepting unit which accepts said plurality of parameters which are output from said parameter managing unit, the parameter representing a question to be displayed on a display of a predetermined terminal device when the ~~first~~ program is executed;

a producing unit which produces a source code of said research program by selecting a plurality of models from said model storing unit for forming respective components corresponding to said type information of said plurality of components to combine said models

and setting said parameter in said argument of said model on the basis of respective type information of said plurality of components corresponding to said plurality of research items included in said plurality of parameters accepted by said accepting unit, and upon completion of production of the said source code, which outputs the effect as a source code completion notification;

a compiling unit which compiles said source code of said research program produced by said producing unit to create said research program which can be executed by said mobile terminal device; and

an instructing unit which instructs said compiling unit to compile said source code in response to said source code completion notification which is output from said producing unit.

28. (Currently Amended) The program creating module-unit as set forth in claim 27, further causing a computer to realize

a checking unit which checks that the size of said research program produced by said compiling unit is smaller than a predetermined size to make it possible to provide said research program when the size of said research program is smaller than a predetermined size.

29. (Currently Amended) The program creating module-unit as set forth in claim 28, further causing a computer to realize

a notifying unit which notifies said display process unit to display a message that urges reduction of the number of said parameters on said screen display unit in accordance with an instruction from said checking unit when said checking unit determines that the size of said research program is larger than a predetermined size.

30. (Currently Amended) The program creating module-unit as set forth in claim 28, further comprising a condition storing unit which holds said predetermined size in association with information which specifies said mobile terminal device,

wherein said checking unit checks the size of said research program on the basis of said predetermined size held in said condition storing unit.

31. (Currently Amended) The program creating system-apparatus as set forth in claim 1, wherein said parameters include a character information as said argument of said component for each research item, and

 said producing unit replaces a part of the program code produced by combining a plurality of models of said plurality of components respectively corresponding to said plurality of research items and then produces a source code of said research program.

32. (Currently Amended) The program creating system-apparatus as set forth in claim 5, wherein said providing unit provides said research program for said mobile terminal device in response to a request from said mobile terminal device.

33. (Currently Amended) The program creating system-apparatus as set forth in claim 5, wherein said providing unit authenticates said researcher by using identification information uniquely allocated to said mobile terminal device before providing said research program, and provides said research program for said mobile terminal device when said authentication is passed.

34. (Currently Amended) The program creating system-apparatus as set forth in claim 1, wherein said mobile terminal device has a sound recording function unit, and
 said information to form said input screen produced by said input screen information producing unit further includes a parameter required to form a component for designating that said sound recording function unit of said mobile terminal device is used, said component being displayed on said work screen displayed on said displaying unit of said mobile terminal device when said mobile terminal device executes said research program.

35. (Currently Amended) The program creating system-apparatus as set forth in claim 1, wherein said research item designating region of said work screen includes a research content character string representing said research content and an image (420) relevant to said research content in order to notify said researcher of said research content,

said input screen information producing unit produces information to form said input screen for allowing said user to specify research content character string and said image to be displayed on said research item designating region of said work screen.

36. (Currently Amended) The program creating system-apparatus as set forth in claim 35,

wherein said input screen information producing unit produces information to form said input screen including said component setting region for designating an appearance of merchandise, and an image to explain a technical term included in said research content as said image being displayed on said research item designating region of said work screen, said component setting region of said input screen allowing said user to designate said image to be displayed on said work screen.

37. (Currently Amended) The program creating system-apparatus as set forth in claim 1, wherein said component to inform said input interface includes a text box to input a text, a radio button with which one answer can be selected from a plurality of options, and a check box with which the arbitrary number of answers can be selected from a plurality of options.